Installation, Operation, and Maintenance

Tracer™ TD-5 Display
for ReliaTel™ Controller

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

November 2013 **RT-SVX49A-EN**

Ingersoll Rand

Warnings, Cautions and Notices

Warnings, Cautions and Notices. Note that warnings, cautions and notices appear at appropriate intervals throughout this manual. Warnings are provided to alert installing contractors to potential hazards that could result in death or personal injury. Cautions are designed to alert personnel to hazardous situations that could result in personal injury, while notices indicate a situation that could result in equipment or property-damage-only accidents.

Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

Read this manual thoroughly before operating or servicing this unit.

ATTENTION: Warnings, Cautions, and Notices appear at appropriate sections throughout this literature. Read these carefully:

⚠WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠CAUTION Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

NOTICE: Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns!

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including industry replacements for CFCs such as HCFCs and HFCs.

Responsible Refrigerant Practices!

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified. The Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠WARNING

Proper Field Wiring and Grounding Required!

All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state electrical codes. Failure to follow code could result in death or serious injury.

⚠WARNING

Personal Protective Equipment (PPE) Required!

Installing/servicing this unit could result in exposure to electrical, mechanical and chemical hazards.

- **Before installing/servicing this unit, technicians MUST put on all Personal Protective Equipment (PPE) recommended for the work being undertaken. ALWAYS refer to appropriate MSDS sheets and OSHA guidelines for proper PPE.**
- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate MSDS sheets and OSHA guidelines for information on allowable personal exposure levels, proper respiratory protection and handling recommendations.**
- **If there is a risk of arc or flash, technicians MUST put on all Personal Protective Equipment (PPE) in accordance with NFPA 70E or other country-specific requirements for arc flash protection, PRIOR to servicing the unit.**

Failure to follow recommendations could result in death or serious injury.

Table of Contents

Introduction

The purpose of this guide is to assist you in installing, programming, and operating the Tracer™ TD-5 display, which operates with the ReliaTel™ Controller. This guide describes how to access the screens and the types of information that appear on the screens.

The Tracer™ TD-5 display allows you to view data and make operational changes on the following types of applications:

- Voyager™
- Precedent™

Hardware

The Tracer™ TD-5 is a durable touch screen display that is designed to operate in both indoor or outdoor environments. The TD-5 display utilizes a standard 75mm VESA mounting pattern for installation. Alternatively, it can be installed with a user-supplied VESA mount.

Power

The Tracer™ TD-5 display is powered by 24 VAC or 24 VDC and requires 21 VA power, which it receives through a power cable. The display is typically connected to J10 of the RTRM Module, but it can also be powered from an alternate power source.

Communication

Communication is provided to the TD-5 through the RTRM J10 connector.

Screen characteristics

The 5-inch WVGA 800 x 480 resolution touch-sensitive color screen is LED backlit, which enables viewing in poor light conditions including outdoor usage (with the exception of direct sunlight).

Touchscreen Guidelines

The touch screen registers the downward pressure of a touch. Light, quick, yet deliberate touches are most effective. Touching with more pressure has no effect.

Recommended tools to use:

- finger
- thumb
- pencil eraser

Do not use:

- a screwdriver
- a pen
- a pencil point
- any other sharp or pointed object that might scratch the screen surface

Dimensions

Note: *The power cable is permanently attached to the TD-5 display. The power connector provides strain relief and protection from the*

Specifications and Agency Compliance

Specification	
Input power:	24 Vac ± 15%, or 24 Vdc ± 10% 21 VA, 50 or 60 Hz
Storage temperature:	–67°F to 203°F (–55°C to 95°C) Humidity: Between 5% to 100% (non-condensing)
Operating temperature:	Temperature: –40°F to 158°F (–40°C to 70°C) Humidity: Between 5% to 100% (non-condensing)
Mounting weight:	Mounting surface must support 0.93 lb (422 grams) Mounting Type: VESA (75 mm x 75 mm)
Environmental rating (enclosure):	IP55 (dust and strong water protected) (PN: X19070632020)
Agency Compliance	
• UL916 PAZX, Open Energy Management Equipment • UL94-5V, Flammability • FCC CFR Title 47, Part 15.109: Class A Limit, (30 MHz – 4 GHz) • CE EMC Directive 2004/108/EC • CE EMC Directive 2004/108/EC	

Supported Languages

The TD-5 display supports 26 built-in languages. For help on how to select a specific language for the display, see "Language," p. 31.

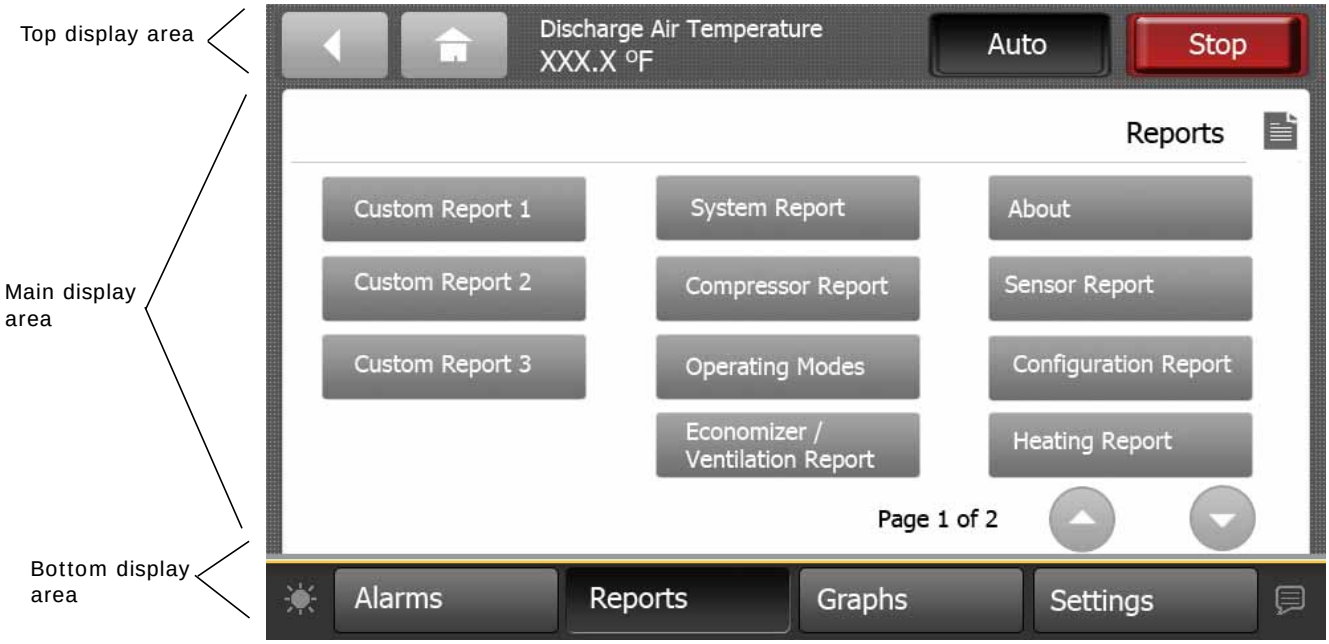
Arabic
Chinese (Simplified)
Chinese (Traditional)
Czech
Dutch
English
French
German
Hebrew
Hungarian
Indonesian
Italian
Japanese
Korean
Norwegian
Polish
Portuguese (Brazil)
Portuguese (Portugal)
Romanian
Russian
Spanish (Mexico)
Spanish (Spain)
Swedish
Thai
Indonesian
French Canadian

Screen Overview

There are three distinct areas on the TD-5 screens:

- Top display area
- Main display area
- Bottom display area

Figure 1. Tracer™ TD-5 display screen



Top Display Area

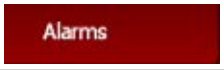
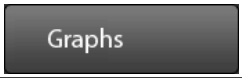
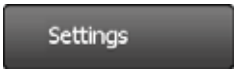
	The Back button, when touched, returns to the previous screen visited.
	The Home button, when touched, navigates to the Home Page. Home can be configured. See "Display Preferences," p. 29.
	The Header Data Point is a user-defined data point that will appear at the top portion of each display screen. This value can be the present value of any point in the TD-5. See "Header Data Point," p. 29.
	
	

Main Display Area

This area serves as the main task area in which you can view custom graphics, create reports, view and take action on alarms, and view or change display settings.

Bottom Display Area

The bottom display area contains functional buttons that provide a link to the appropriate screen.

	Screen brightness settings: Touch this icon to change the display's brightness.
	Touch this button to open the Alarms screen. When an alarm is present, this button will flash red.
	Touch this button to navigate to the Reports screen.
	Touch this button to open the Data Graphs screen to view Graphs.
	Touch this button to open the Settings screen, which contains options for controls, security (if enabled), and display settings.
	Language selection: Touch this icon to select a language that will be displayed on all screens.

Installing the Tracer™ TD-5 Display

This section describes installation procedures when mounting the Tracer™ TD-5 display near the RTRM module or remotely mounted up to 328 ft (100 m) by using a field-suppled 75 mm VESA mounting bracket. Read and observe all warning and caution statements before you begin the installation procedure.

⚠WARNING

Hazardous Voltage!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

Packaged Contents

- One (1) Tracer™ TD-5 display with permanently attached 2.6 ft (0.8 m) power cable with male connector
- Four (4) M-4 screws
- Four (4) spacer washers

Additional Mounting Parts

- TD-5 Display Low Profile Mounting Bracket (VESA 75mm) (PN: X05010511010)

Installing the TD-5 Display onto a VESA Mounting Bracket

The Tracer™ TD-5 can be mounted near the RTRM module in the control panel, or remotely mounted up to 328 ft (100 m) by using a field-suppled 75 mm VESA mount.

Remote mounting requires the following additional field-supplied components:

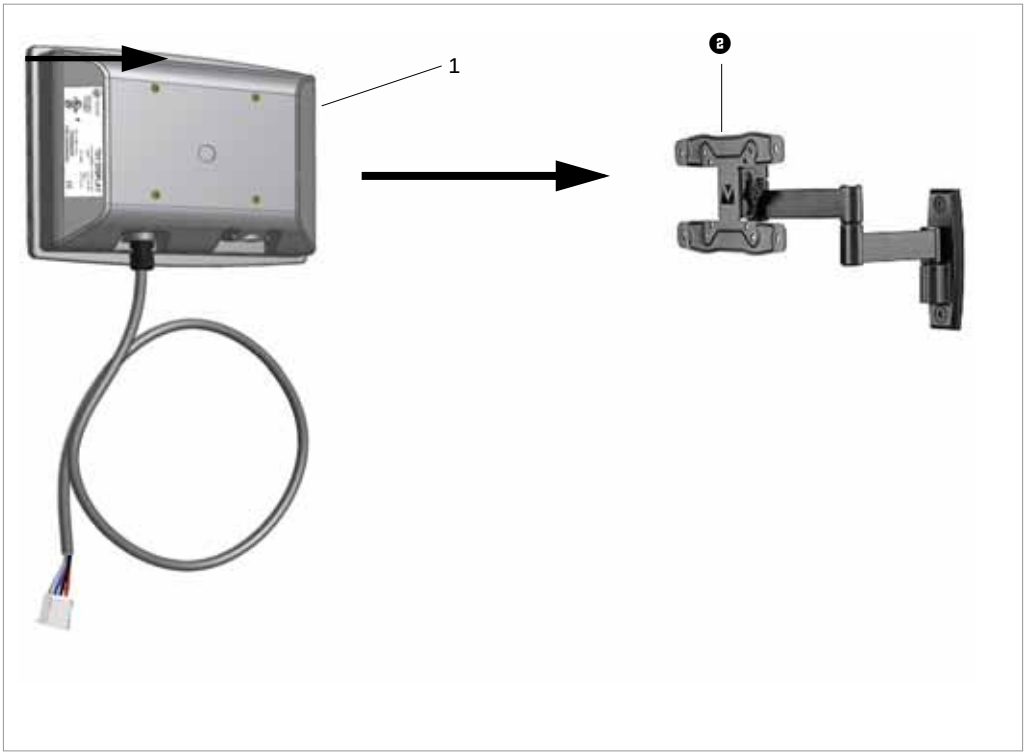
- A power source that will supply 24 VAC to the display
- Power cables

Many commercial 75mm VESA mounting brackets are available, which range from a simple wall mount to tilt-and-swivel mounts such as the one shown in Figure 2, p. 9, or the TD-5 Display Low Profile Mounting Bracket (VESA 75mm) (PN: X05010511010).

To install onto a VESA mounting bracket:

1. Disconnect power at the circuit breaker and perform lockout/tagout procedures.
2. Mount the VESA mounting bracket according to manufacturer's instructions.
3. Position the TD-5 display ❶ onto the VESA mounting bracket ❷ and align the four mounting holes with the bracket while inserting and hand-tightening the four M-4 screws. (Some brands of VESA mounting brackets may require the use of the four spacer washers to allow the M-4 screws to tighten properly.)
4. Securely tighten the M-4 screws using a Phillips screwdriver.

Figure 2. Example VESA mounting



Powering up the TD-5 Display for the First Time

After completing the installation instructions in "Installing the Tracer™ TD-5 Display," p. 8, The TD-5 display can be powered up.

Before applying power to the TD-5 Display, verify that the RTRM Module is powered up.

Upon successful power up, the TD-5 Display will default to the configured home screen. The System Report is the factory default.

Important: *Do not attempt to update the TD-5 Display from a connection type other than a USB.*

Alarms

Alarms appear on the Tracer™ TD-5 display immediately upon detection. Touch the Alarms button in the bottom display area to view the Alarms screen.

Active Alarms

Figure 3, p. 10 shows the Active Alarms screen and commonly used functions. Configuration is not required in order for points in alarm to appear in the Active Alarms screen. When the alarm clears and the point returns to normal, the alarm will automatically be removed from the list. The number of active alarms is displayed in the top right portion of the screen. When an active alarm is present, the alarm button at the bottom of the screen will flash.

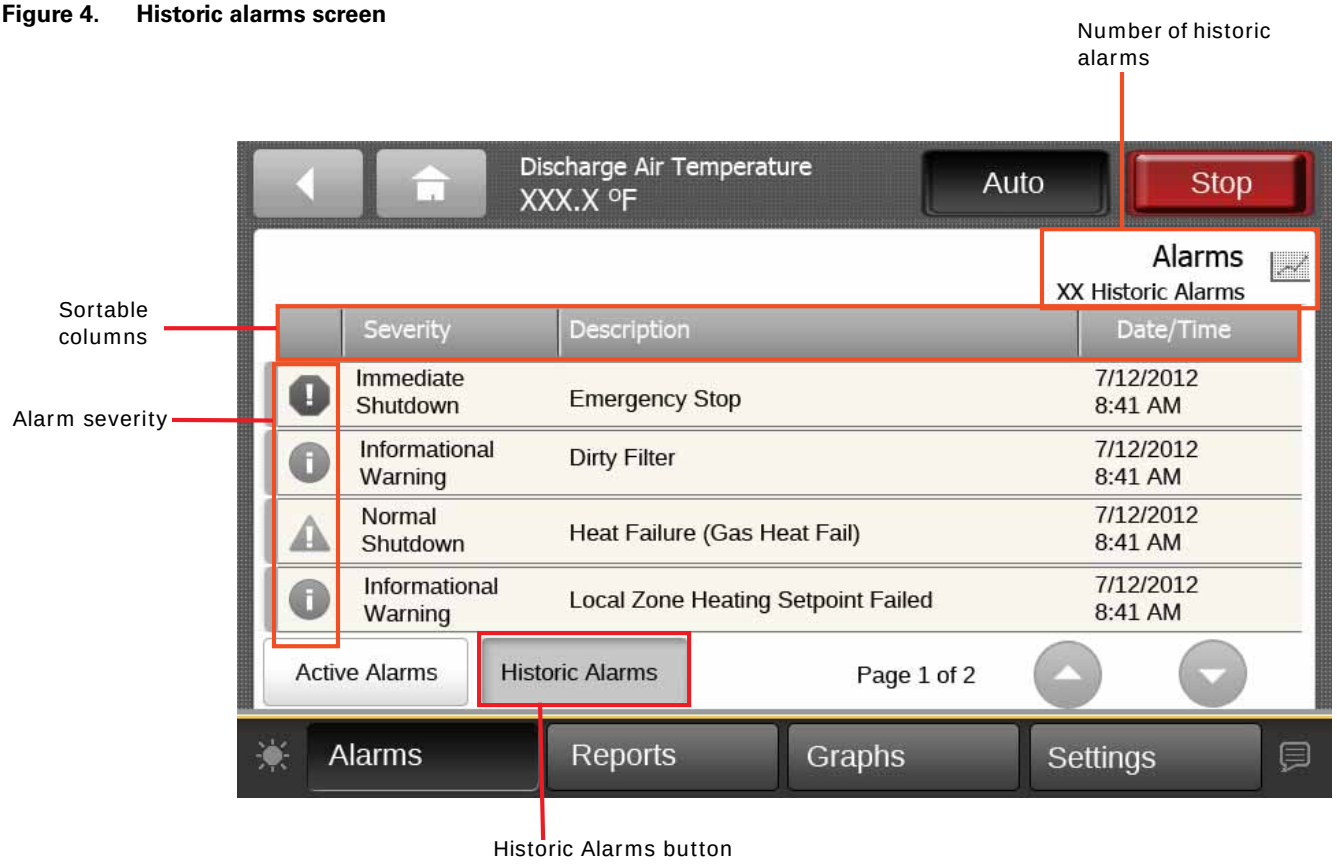
The Alarms screen defaults to Active Alarms. The **Active Alarms** button has a shaded appearance which indicates that you are viewing active alarms.

Figure 3. Active alarms screen

Historic Alarms

On the Alarms screen, touch the **Historic Alarms** button to view all alarms, commonly referred to as the event log (see Figure 4, p. 11).

Figure 4. Historic alarms screen



Viewing Active and Historic Alarms

- **Active alarms:** These are alarms that require attention. All alarms that are currently active appear when you view this category. Active alarms are not reset by way of the display. Active alarms will clear automatically when the condition causing the alarm is removed.
- **Historic alarms:** Historic alarms appear when you view this category. The alarms are listed in chronological order.

Alarm Severity

A color-code icon representing the severity of each alarm is shown under the severity (!) column. For a description of the five alarm icons, see Table 1, p. 12.

Sortable Alarms

You can sort active alarms by touching one of the column headers. Choose to sort by severity (!), date and time, point name, or description.

Alarm Icons

Alarms icons appear in the left-most column of the alarms screen. They are identifiable by their shape and color.

Table 1. Alarm icons

Active Alarm Icons	Notification Class
	Critical
	Service Required
	Information
Note: Notifications classes are configured in point alarm settings section in Tracer TU.	

Sorting Alarms

To sort alarms by a category other than date and time, touch one of the other column headings in the table. The column heading responds by changing to blue, and the alarms table re-sorts according to the blue column heading. By touching the blue column heading again, the column will change the sort direction.

- Severity (!): Active alarms are at the top, followed by the most severe, followed by the most recent.
- Date and Time (the default sort): Most recent alarms are at the top.
- Description: Alarms are sorted alphabetically by description.

Table 2. List of alarms

Space Temp Sensor Failure	Outdoor Temp Sensor Fail
Compressor 1 HPC Lockout	Compressor 1 LPC Lockout
Comp 1 Disable Input/LPC	Compressor 2 HPC Lockout
Compressor 2 LPC Lockout	Comp 2 Disable Input/LPC
Smoke Detector	Heat Failure
Dirty Filter	Supply Fan Failure
Emergency Stop	Frostat™ Trip
Mixed Air Temp Sensor Fail	OA Humidity Sensor Failure
Return Air Temp Sensor Fail	Return Air RH Sensor Failure
Coil Temp Sensor #1 Fail	Demand Defrost Fault A
Demand Defrost Fault B	Demand Defrost Fault C
Demand Defrost Fault D	Defrost Default Mode
Local Cool Setpoint Fail	Local Heat Setpoint Fail
Vent Override – Purge	Vent Override – Exhaust
Vent Override – Pressurize	Drain Pan Overflow
Freezestat Tripped	Supply Air Temp Sensor Fail
CO_2 Sensor Failure	CO_2 Setpoint Failure
Space Humidity Sensor Fail	Dehumid Setpoint Failure

Table 2. List of alarms (continued)

Air Flow Sensor Fail	Min OA Flow Setpoint Fail
Space Pressure Setpoint Fail	Space Pressure Sensor Fail
Heating High Temp Limit Open	Flame Rollout Switch Open
Inducer Proving Switch Fail	No Flame Sensed on heat call
Flame Sensed w/Gas Valve Off	Gas Heat Module Failure
Economizer Actuator Fault	Morning Warmup Setpoint Fail
SA Reset Amount Failure	SA Temp Cool Setpoint Fail
SA Temp Heat Setpoint Fail	SA Reset Setpoint Failure
SA Press Setpoint Fail	SA Pressure Deadband Fail
Supply Air Press Sensor Fail	SA High Press Limit
SA Pressure PWM Fault	Comp 1 Disable Input/HPC
Comp 2 Disable Input/HPC	CO2 Low Limit Setpoint Fault
Exh/Ret Fan Proving Failure	RTOM Comm Fail
RTEM Comm Fail	RTAM Comm Fail
RTVM Comm Fail	RTCM Comm Fail
SA Reheat Setpoint Failure	RTDM Comm Fail
Space Press Deadband Fail	Mod Dehumid Config
Ent Evap Temp Sensor Fail	Coil Temp Sensor #2 Fail
SA Temp Heat Setpoint Fail	Demand Defrost Fault A Ckt 2
Demand Defrost Fault B Ckt 2	Demand Defrost Fault C Ckt 2
Defrost Default Mode Ckt 2	Demand Defrost Fault A Ckt 1
Demand Defrost Fault B Ckt 1	Demand Defrost Fault C Ckt 1
Defrost Default Mode Ckt 1	Exhaust Fan Setpoint Fail
IGN1 Communications Timed out	IGN2 Communications Timed out
DCV Min Position Setpoint Fail (@ Full Fan Speed)	Design Min Position Setpoint Fail (@ Full Fan Speed)
Enthalpy Setpoint Fail	Design Min Position at Minimum Fan Speed Fail
DCV Min Position at Minimum Fan Speed Fail	Design Min Position at Midpoint Fan Speed Fail
DA Cool Setpoint Fail	PWM Max Fan Spd Setpt Fail
Compressor 3 HPC Lockout	Compressor 3 LPC Lockout
Comp 3 Disable Input/LPC	Comp 3 Disable Input/HPC
Power on Reset	TD-5 Loss of Comm with RTRM

Reports

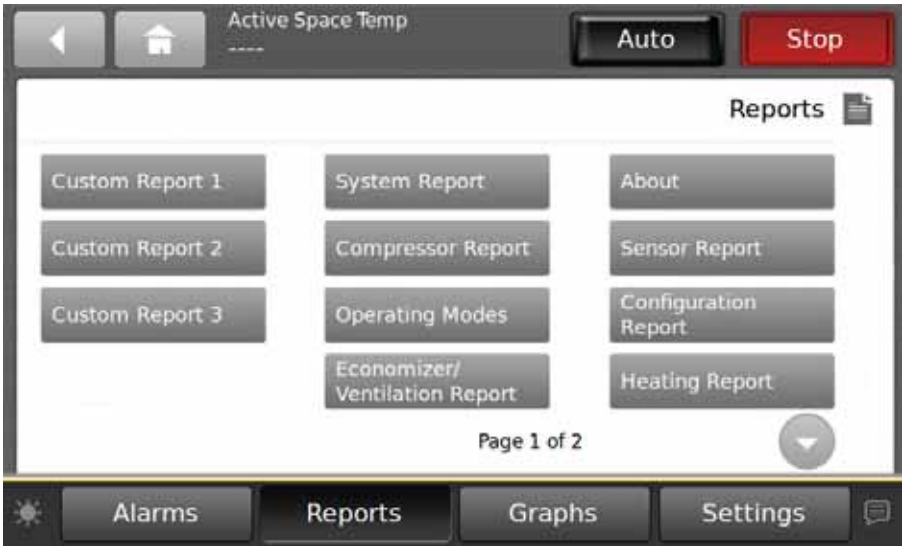
You can use the Tracer™ TD-5 Display to view a variety of reports and create and edit custom reports.

Touch the **Reports** button in the bottom display area to view the Reports screen. The Reports screen contains the following buttons:

Table 3. Representation of screen below

Custom Report 1	System Report	About
Custom Report 2	Compressor Report	Sensor Report
Custom Report 3	Operating Modes	Configuration Report
	Economizer/ Ventilation Report	Heating Report
Binary Input Report	Binary Output Report	

Figure 5. Reports screen



Custom Reports

You can create up to three custom reports using the Tracer™ TD-5 Display

Creating a Custom Report

1. Navigate to the Reports screen, then touch one of the three custom report buttons.

   The Custom Report (1, 2, or 3) screen appears.

2. Touch the **Edit** button.

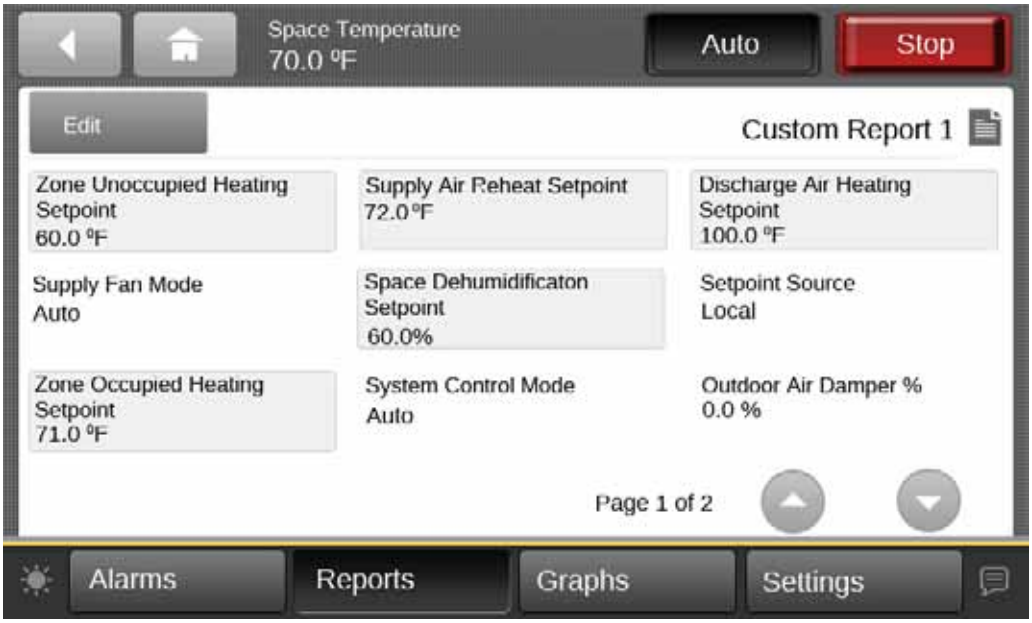
   The Edit Custom Report screen appears (Figure 6, p. 14).

Figure 6. Creating a custom report

3. Use the up and down arrow buttons to select a point. Add items by touching the item that is highlighted blue, then touch the **Add** button.
4. Continue adding values to your report. When you are finished, touch the **Save** button.
   The Custom Report screen, populated with your selected values, appears (Figure 7, p. 14).

To view the items in the selected list, touch a value in this list and use the up and down arrows to the right of the list. To change the location of an item in the list, select the item and then use the up and down arrows above the table to move the items.

Figure 7. New custom report screen

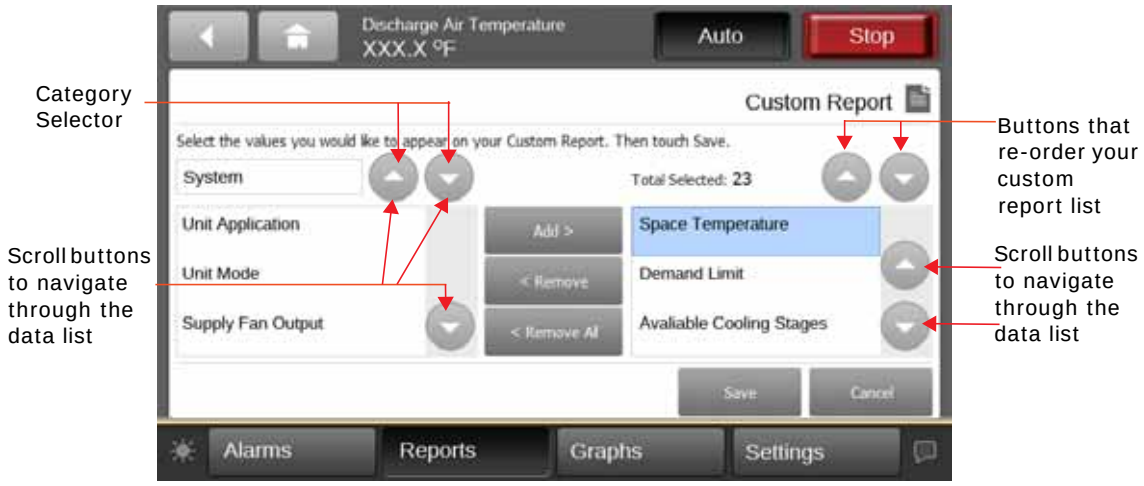


Editing a Custom Report

1. Touch **Reports** to view the Reports screen.
2. Touch the report that you want to edit.

   Follow steps 2 through 4 in "Creating a Custom Report," p. 13. to complete your edits.

Figure 8. Editing a custom report



Changing the Order of Items in a Custom Report

Items in a custom report can be rearranged according to personal preference by using the editing tools as described in Editing a Custom Report.

For example, you created the custom report shown in Figure 7, p. 14, but would prefer to move item "Diagnostic: Space Static Pressure Failure" to the top left portion of the report.

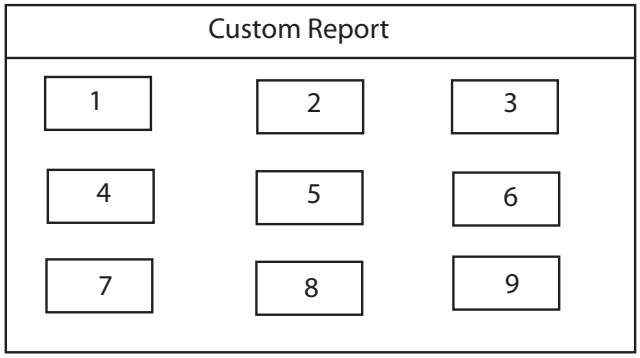
To change the order for the example described above:

1. Touch the **Edit** button on the Custom Report screen.
2. Use the arrow buttons to locate the item to be reordered. When located, touch the item which will then be highlighted blue (see Figure 8, p. 15).
3. Use the arrow buttons to move the highlighted item to the top of the list (number 1 position).
4. Touch **Save**. You will be returned to the Custom Report screen, where the reordering changes now appear.

Note: *On the TD-5 display, report items are ordered from left to right with the first item appearing at the top left portion of the screen. Up to nine items can appear on each Custom Report screen.*

The model in Figure 9, p. 15 depicts a custom report screen with the first nine items displayed on the screen. Use this model to accurately reorder items in your custom reports.

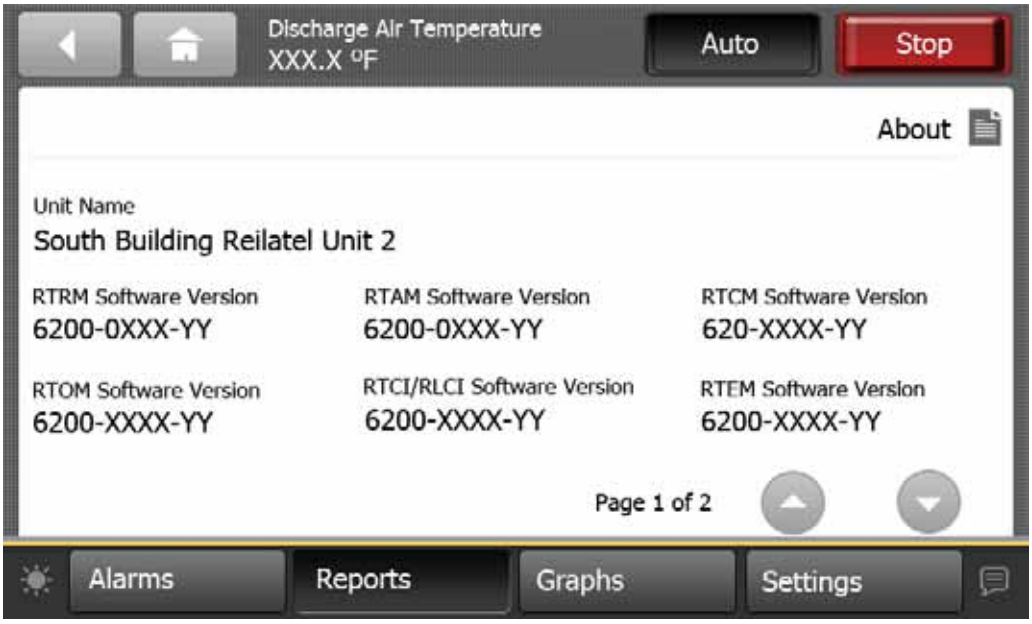
Figure 9. Custom report (order of items)



About

Touch the **About** button to view the About screen. View information about the unit controller and the TD-5 display to which it is connected. Touch the arrow button to scroll to the next screen.

Figure 10. About screen



Data Area

Unit Name. This is the name that was entered.

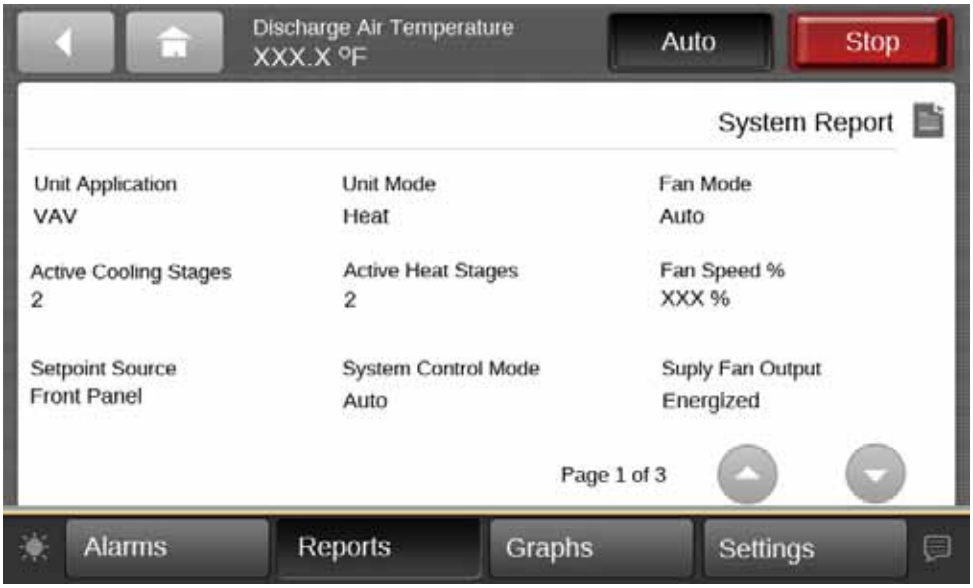
The following data are displayed on the About screen.

Unit Name ABCDEFGHIJKLMNOPQRSTUVWXYZ12456789		
RTRM Software Version 6200-XXXX-YY.ZZ	RTVM Software Version 6200-XXXX-YY.ZZ	VSM Software Version 6200-XXXX-YY.ZZ
RTOM Software Version 6200-XXXX-YY.ZZ	RTAM Software Version 6200-XXXX-YY.ZZ	RTEM Software Version 6200-XXXX-YY.ZZ
RTDM Software Version 6200-XXXX-YY.ZZ	BAS Interface Software Version 6200-XXXX-YY.ZZ	
Display User Interface Software Version 6200-XXXX-YY.zz	Display Firmware Version 6200-XXXX-YY.zz	Display Boot Code Version 6200-XXXX-YY.zz

System Report

Touch the **System Report** button to view the System Report screen. Touch the arrow buttons to move between screens.

Figure 11. System report screen



Data Area

The following data can be configured to appear on the System Report screen. Only configured items will appear.

Unit Application VAV,CV,SZVAV	Unit Mode Heat, Cool, Off, Emergency Heat	Setpoint Source Remote, Local
Supply Fan Output Energized, De-energized	Supply Fan Speed % XXX %	Supply Fan Mode On, Auto
Occupancy Occupied, Unoccupied	Active Cooling Stages X	Active Heating Stages X
Active Space Temp XXX.X F/C	Active Space Temp Setpoint XXX.X F/C	Outdoor Air Damper % XXX % Open
Supply Air Temp XXX.X F/C	Active Supply Air Temp Setpoint XXX.X F/C	System Control Mode Manual, Auto
Economizing Enabled, Disabled	Ventilation Type Fixed/DCV (*DCV = Demand Control Ventilation)	Variable Compressor Speed % XXX %
Fresh Air Measurement Installed, Not Installed	Demand Limit Active/Not Active	Heating Type None, Electric, Gas, Hydronic
Exhaust Fan Status	Available Cooling Stages X	Available Heating Stages X
Supply Fan Starts XXXXX	Supply Fan Running Time HHHHH:MM	Space Pressure X.XX in(H_2O)/ mm(H_20)
Supply Air Pressure X.XX in(H_2O)/ mm(H_20)	Local Space Temp X XX.X OF/C	Emergency Stop Input
RTOM Low Fan Speed Output	Alarm Indicator Output	VAV Box Output
Thermostat Y1 Input	Thermostat W1/O Input	Thermostat G Input
Thermostat W2 Input	Thermostat Y2 Input	Thermostat X2 Input
Supply Fan Proving Input	Condensate Drain Overflow Input	Frostat™ Input
Clogged Filter Input	Smoke Detector Input	Reheat Humidistat Input
Changeover Switch Input		

Economizer/Ventilation Report

Touch the **Economizer/Ventilation Report** button to view the Economizer/Ventilation Report screen. Touch the arrow buttons to move between screens.

Data Area

The following data can be configured to appear on the Economizer/Ventilation Report screen. Only configured items will appear.

Outdoor Air Damper % XXX % Open	Economizing Enabled, Disabled	Mixed Air Temp XXX.X F/C
Ventilation Type	Economizing Enable Type Dry Bulb, Reference Enthalpy, Comparative Enthalpy	Outdoor Air Temp XXX.X F/C
Active Min OA Damper Position Target XXX %	Manual Enthalpy Override Enabled, Disabled	Return Air Temp XXX.X F/C
Active Upper CO2 Limit Setpoint XXXX PPM	Active Lower CO_2 Limit Setpoint XXXX PPM	Space CO_2 XXXX PPM
Active Enthalpy Setpoint XXXXX BTU / LBM	Return Air Humidity XXX %	Outdoor Air Humidity XXX %
Outdoor Air Flow XXXXX CFM / LPM	Min Outdoor Air Flow Target XXXXX CFM / LPM	Min Outdoor Air Flow Deadband XXXXX CFM / LPM
Design Min Position High Speed Setpoint XXX %	Design Min Position Mid Speed Setpoint XXX %	Design Min Position Low Speed Setpoint XXX %
DCV Min Position High Speed Setpoint XXX %	DCV Min Position Low Speed Setpoint XXX %	Power Exhaust Fan Output Off, On, Auto
DCV Min OA Flow Setpoint XXXXX CFM / LPM	Outdoor Air Flow Adjustment Setpoint	Exhaust Fan Starts XXXXX
Exhaust Fan Running Time HHHHH:MM	Exhaust Damper Position % Open XXX %	Space Pressure XX.XX IWC /cmWC
Active Space Pressure Setpoint XX.XX IWC /cmWC	Space Pressure Deadband XX.XX IWC /cmWC	Outdoor Fan A Output
Outdoor Fan B Output	Variable Speed Outdoor Fan %	Ventilation Override Pressurize Input
Ventilation Override Purge Input	Ventilation Override Exhaust Input	Power Exhaust Fan Output
Supply Fan Proving Input		

Compressor Report

Touch the **Compressor Report** button to view the Compressor Report screen. Touch the arrow buttons to move between screens.

Data Area

The following data can be configured to appear on the Compressor Report screen. Only configured items will appear.

Table 4. Compressor report - data area

Active Cooling Stages X	Available Cooling Stages X	Number of Compressors Installed X
Outdoor Fan A Output Energized, De-energized	Outdoor Fan B Output Energized, De-energized	Variable Speed Outdoor Fan % XXX.X %
Dehumidification Status Inactive, Active Reheat, Active Enhanced	Reheat Entering Evap Temp XXX.X F/C	Variable Compressor Speed % XXX.X %
Compressor 1 Disable Input Enabled, Disabled	Compressor 2 Disable Input Enabled, Disabled	Compressor 3 Disable Input Enabled, Disabled
Compressor 1 Proving Input Open, Closed	Compressor 2 Proving Input Open, Closed	Compressor 3 Proving Input Open, Closed
Heatsink Refrigerant Temperature XXX.X F/C	Supply Air Temp XXX.X F/C	Space Temp XXX.X F/C
Active Space Cooling Setpoint XXX.X F/C	Defrost Status Ckt 1 Inactive, Defrosting	Defrost Status Ckt 2 Inactive, Defrosting
Active Supply Air Temp Cooling Setpoint XXX.X F/C	Switchover Valve (SOV) 1 Output Heating, Cooling	Switchover Valve (SOV) 2 Output Heating, Cooling
Outdoor Coil Temp Ckt 1 XXX.X F/C	Outdoor Coil Temp Ckt 2 XXX.X F/C	Compressor 1 Starts XXXXX

Table 4. Compressor report - data area (continued)

Compressor 2 Starts XXXXX	Compressor 3 Starts XXXXX	Compressor 1 Running Time HHHHH:MM
Compressor 2 Running Time HHHHH:MM	Compressor 3 Running Time HHHHH:MM	Number of Compressors Installed
Variable Speed Compressor	Reheat Pumpout Relay	Defrost Starts Ckt 1 XXXXX *Phase 2

Heating Report

Touch the **Heating Report** button to view the Heating Report screen. Touch the arrow buttons to move between screens.

Data Area

The following data can be configured to appear on the Heating Report screen. Only configured items will appear.

Table 5. Heating report - data area

Heating Type None, Electric, Gas, Hydronic	Heating Configuration Staged /Modulating	Available Heating Stages X
Active Heating Stages X	Space Temp XXX.X F/C	Modulating Heat Output % XXX %
Gas Heating Status	Supply Air Temp XXX.X F/C	Defrost Status Ckt 1 Inactive, Defrosting
Defrost Status Ckt 2 Inactive, Defrosting	Active Space Heating Setpoint XXX.X F/C	Outdoor Coil Temp Ckt 1 XXX.X F/C
Outdoor Coil Temp Ckt 2 XXX.X F/C	Active Supply Air Temp Heating Setpoint XXX.X F/C	Heating Stage 1 Output Active, Inactive
Heating Stage 2 Output Active, Inactive	Freezestat Input Open, Closed	Outdoor Air Temp XXX.X F/C
Gas Heating Type		IGN Pressure Switch Input
IGN Temp Limit Input	IGN Flame Rollout Input	IGN Inducer High Output
IGN Inducer Low Output		

Configuration Report

Touch the **Configuration Report** button to view the Configuration Report screen. Touch the arrow buttons to move between screens.

Data Area

The following data can be configured to appear on the Configuration Report screen. Only configured items will appear.

Table 6. Configuration report - data area

Unit Application CV, VAV, SZVAV	Refrigeration Type Cooling Only, Heat Pump	Product Type Voyager™ Commercial, Precedent™/ Precedent™ 17 Plus/Voyager™ Light Commercial/Odyssey™
Dehumidification None, Hot Gas Reheat, Enhanced	Supply Fan Control Type Fixed, Variable, IGV	Economizer Installed, Not Installed
Dehumidification Type Staged, Modulating	Heating Type None, Electric, Gas, Hydronic	CV Control Type Zone Sensor, Thermostat
Cooling Stages Configured X	Cooling Steps Input 3 Step, 2 Step	Number of Compressors Installed X
	Heating Stages Configured X	Variable Speed Compressor Installed, Not Installed
Economizer Enable Type Drybulb, Reference Enthalpy, Comparative Enthalpy	Supply Fan Motor Type Fixed, VFD, ECM, ERM	Supply Fan Motor Control 0 to 10VDC, PWM
Heat Pump Type Single, Independent	Windmill Prevention Enable, Disable	Gas Ignition Module 1 Staged, Modulating
True Supply Air Reporting Enable, Disable	Supply Air Tempering Input Enable, Disable	Gas Ignition Module 2 Installed, Not Installed

Table 6. Configuration report - data area (continued)

Manual Enthalpy Override Enable, Disable	Lead Lag Configuration Input Enable, Disable	OA Flow Compensation Enable, Disable
Outdoor Fan Cycling Input Normal, Lower	Programmable Zone Sensor Installed, Not Installed	Cabinet Type Horizontal, Downflow
Outdoor Air Flow Compensation Enable, Disable	Evaporator Defrost Control Enable, Disable	RTRM Fan Proving Input Closed, Open
Supply Air Tempering Input Disable, Enable	Outdoor Fan Cycling Input Normal, Lower	Exhaust Air Control - StatiTrac™ Installed, Not Installed

Sensor Report

Touch the **Sensor Report** button to view the Sensor Report screen.Touch the arrow buttons to move between screens.

Data Area

The following data can be configured to appear on the Sensor Report screen. Only configured items will appear.

Table 7. Sensor report - data area

Active Space Temp XXX.X OF/C	Local Space Temp XXX.X OF/C	Supply Air Temp XXX.X OF/C
Outdoor Air Temp XXX.X OF/C	Mixed Air Temp XXX.X OF/C	Return Air Temp XXX.X OF/C
Outdoor Air Humidity XXX.X%	Return Air Humidity XXX.X%	Space CO_2 XXXX PPM
Outdoor Air Flow XXXXX CFM/LPM	Space Humidity XXX%	Outdoor Coil Temp Ckt 1 XXX.X OF/C
Outdoor Coil Temp Ckt 2 XXX.X OF/C	Space Pressure X.XX in(H_2O)/mm(H_20)	Reheat Entering Evap Temp XXX.X OF/C
Supply Air Pressure X.XX in(H_2O)/ mm(H_20)		

Binary Input Report

The Binary Input report provides general Reliatel Unit operating information. Touch the **Binary Input Report** button to view the Binary Input Report screen.

Data Area

The following data can be configured to appear on the Configuration Report screen. Only configured items will appear.

Table 8. Binary input report - data area

RTRM	Emergency Stop Input Auto, Emergency Stop	Occupancy	RTRM Fan Proving Input Closed, Open
	Thermostat Y1 Input Open, Closed	Thermostat W1/O Input Open, Closed	Thermostat G Input Open, Closed
	Thermostat W2 Input Open, Closed	Thermostat Y2 Input Open, Closed	Thermostat X2 Input Open, Closed
	Compressor 1 Disable Input Closed, Open	Compressor 1 Proving Input Operating, Not Operating	Compressor 2 Disable Input Closed, Open
	Compressor 2 Proving Input Operating, Not Operating		
RTOM	Supply Fan Proving Input Open, Closed	Condensate Drain Overflow Input Open, Closed	Ventilation Override Pressurize Input Open, Closed
	Ventilation Override Purge Input Open, Closed	Ventilation Override Exhaust Input Open, Closed	Frostat™ Input Open, Closed
	Clogged Filter Input Open, Closed	Freezestat Input Open, Closed	Smoke Detector Input Open, Closed
	Reheat Humidistat Input Open, Closed	Changeover Switch Input Cooling, Heating	
VSM	Compressor 3 Disable Input Closed, Open	Compressor 3 Proving Input Operating, Not Operating	
RTVM	Exhaust Fan Proving Input Open, Closed		

Table 8. Binary input report - data area (continued)

IGN	IGN Pressure Switch Input Open, Closed	IGN Temp Limit Input Open, Closed	IGN Flame Rollout Input Open, Closed

Binary Output Report

The Binary Input report provides general Reliatel Unit operating information. Touch the **Binary Input Report** button to view the Binary Input Report screen.

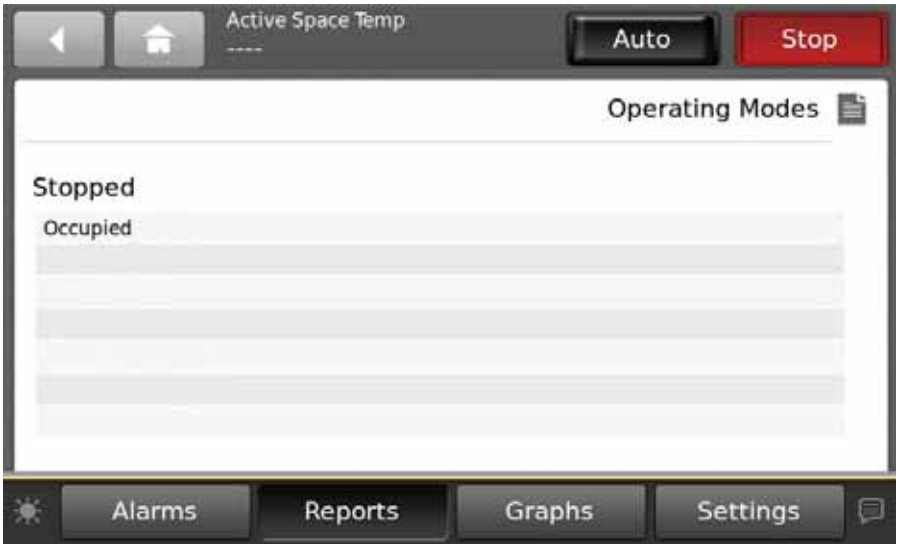
Data Area

The following data can be configured to appear on the Configuration Report screen. Only configured items will appear.

Table 9. Binary output report - data area

RTRM	Supply Fan Output Off, On	Compressor 1 Output Off, On	Compressor 2 Output Off, On
	Heat Stage 1 Output Off, On	SOV 1 Output Off, On	Outdoor Fan A Output Off, On
	Heat Stage 2 Output Off, On	SOV 2 Output Off, On or Low Fan Speed or Compressor 3 Output Off, On	Outdoor Fan B Output Off, On
RTOM/RTAM/RTVM/ RTEM/RTDM	RTOM Low Fan Speed Output Off, On	Alarm Indicator Output Off, On	VAV Box Output Off, On
	Power Exhaust Fan Output Off, On	Reheat Pumpout Relay Off, On	
IGN	IGN Inducer High Output Off, On	IGN Inducer Low Output Off, On	

Figure 12. Operating modes report details screen



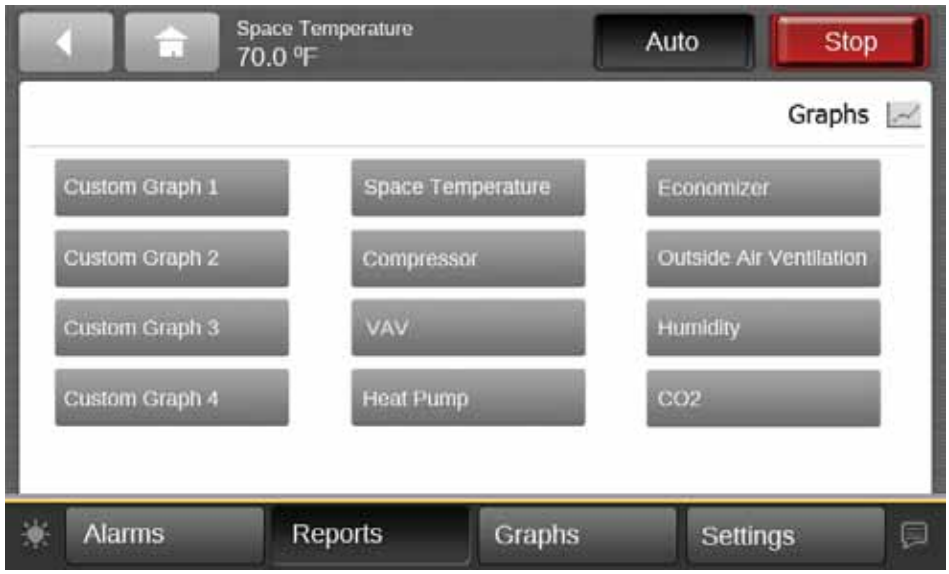
Note: *Operating Modes: The operating Mode page shall show the user the general operation of the unit, and what modes it is operating in.*

Graphs

Graphs allow users to view data in graphical format on the Display. Four custom graphs and eight standard graphs are available. Graphs can be created with a maximum of four lines per graph. Custom graphs are user-defined and can be edited by changing the scale on the left and right Y-axis and choosing the line color.

Touch the **Graphs** button in the bottom display area to view the Graphs screen (Figure 13, p. 22). The Graphs screen contains twelve buttons that allow you to view and edit a particular graph. There are four custom graphs and 8 standard graphs.

Figure 13. Graphs screen



Creating a Custom Graph

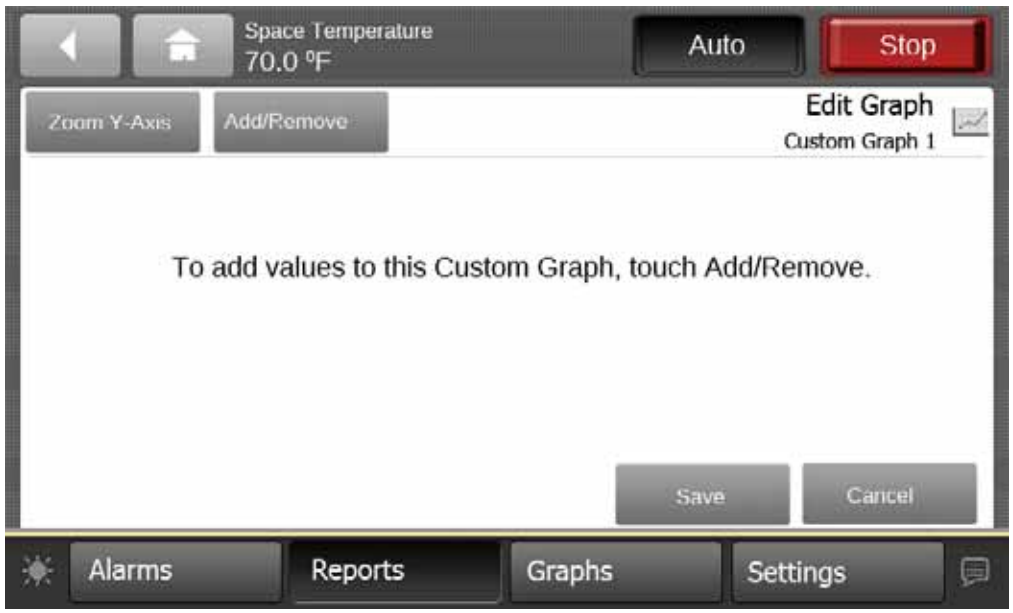
5. Navigate to the Graphs screen, then touch an available data graph button.

   The Custom Graph screen appears.

6. Touch the **Edit Graph** button.

   The Edit Graph screen appears (Figure 14, p. 22).

Figure 14. Edit graph screen



7. Touch the **Add/Remove** button to add values to the custom data graph.

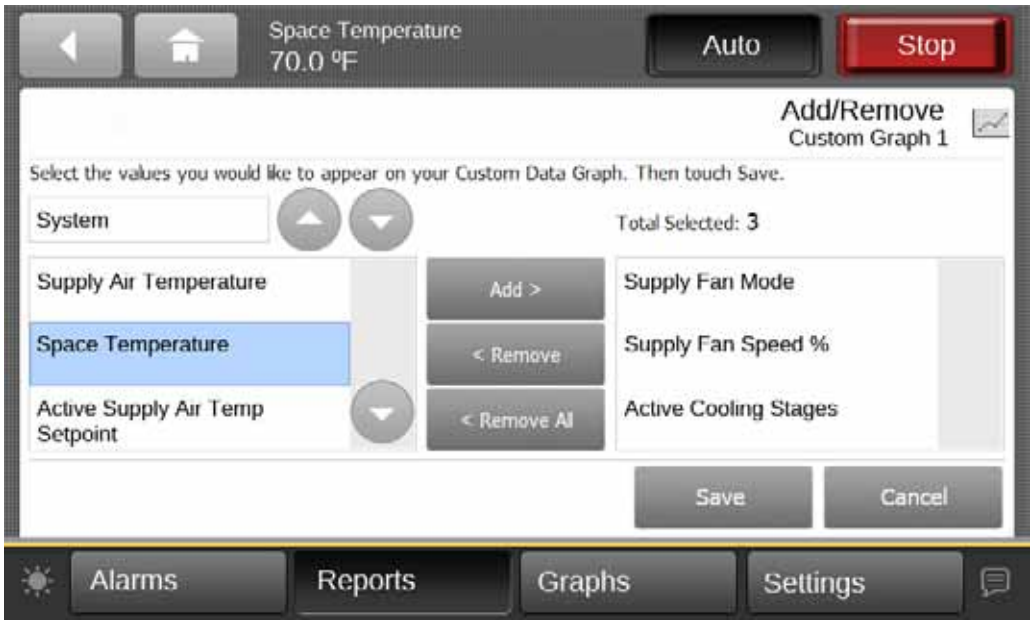
   The Add/Remove screen appears.

8. Use the arrow buttons to select a value.

9. Select the values, then touch the **Add** button (up to four selections are allowed).

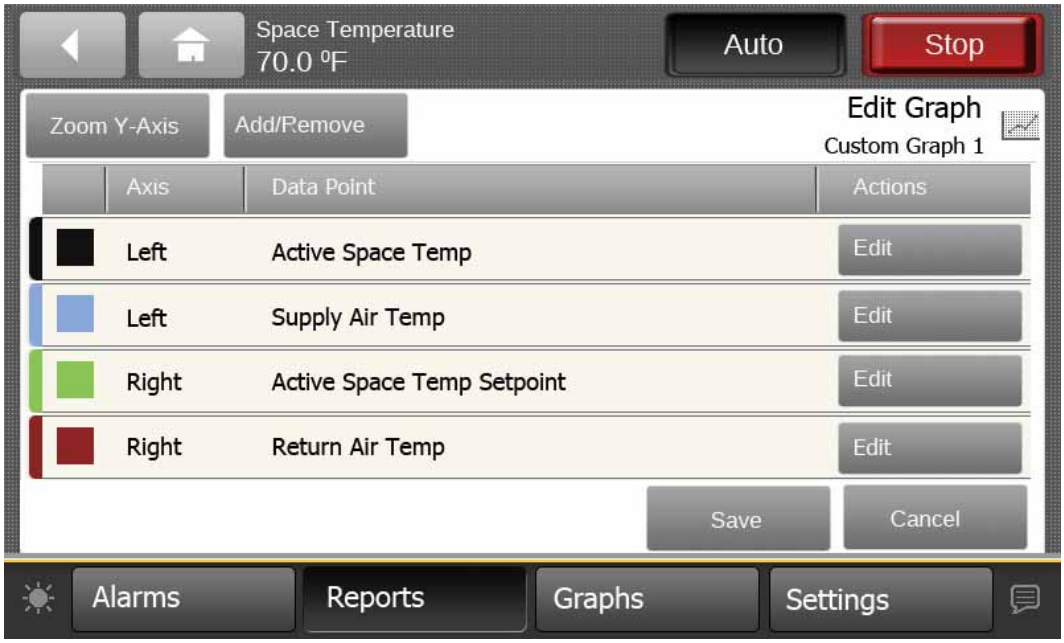
10. Touch the **Save** button. The Edit Graph screen appears, which reflects the selected values.

Figure 15. Adding data logs to the custom graph



11. Use the Edit Graph screen to modify the graph. Touch the **Edit** button that corresponds with the value that you want to change. Only one value can be edited at a time.

Figure 16. Edit graph screen (after values have been added)



12. From the Edit screen you can choose which Y-axis to display the value, a color, and whether or not to show data samples. Touch the **Save** button when finished. Repeat the process with remaining values.

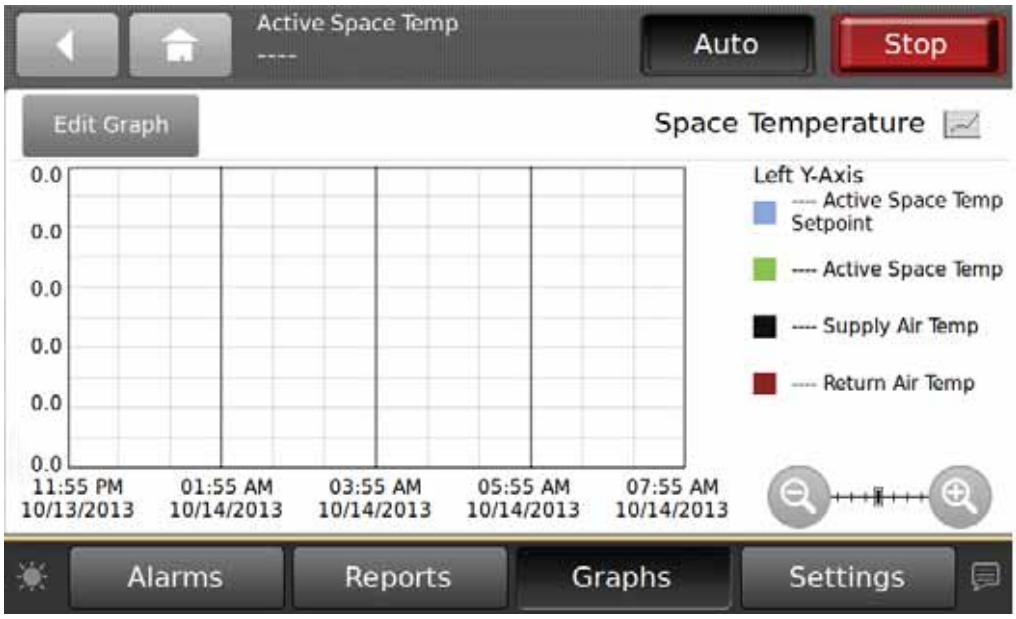
Figure 17. Customizing the graph

13. Touch the **Save** button to display the new graph (Figure 18, p. 24).

Note: *Depending on the sampling rate, the custom graph may be empty for several hours.*

You can make changes to the way data is presented on the graph at anytime. Touch the zoom-in icon and zoom-out icon to either increase or decrease the viewable time frame. This action also enables back and forward arrows that allow you to view data at various times of the day.

Figure 18. Viewing the graph



Editing the Y-Axis

The default values on the right and left Y-axes can be changed according to your specifications.

14. Touch the **Edit Y-Axis** button located on the top portion of the Custom Data Graph screen.

    The Edit Y-Axis screen appears (Figure 19, p. 25).

15. Touch the **Manually Select Range** box for either the left or right Y-axis.
16. Touch the **edit** button next to one of the two value ranges.

    The Keypad screen appears.
17. Select a new value and then touch **Enter** to save.
18. Repeat steps 2 through 4 until all preferred changes have been made.

Figure 19. Editing the Y-Axis

Standard Graphs

There shall be 8 standard graphs. The standard graphs are below:

Table 10. Standard graphs

Space Temperature	Economizer
Compressor	Outside Air Ventilation
VAV	Humidity
Heat Pump	CO_2

Space Temperature:

The table below describes the data in the System Status graph:

Data Point	Line Color	Axis
Active Space Temp Setpoint	Blue	Left
Active Space Temp	Green	Left
Supply Air Temp	Black	Left
Return Air Temperature	Red	Left

Compressor Graph:

The table below describes the data in the graph:

Data Point	Line Color	Axis
Active Supply Air Temp Setpoint	Pink	Left
Variable Compressor Speed %	Green	Left
Supply Air Temp	Black	Left
Active Cooling Stages	Blue	Right

VAV System:

The table below describes the data in the System Status graph:

Data Point	Line Color	Axis
Active Supply Air Temp Setpoint	Pink	Left
Active Space Temp	Green	Left
Supply Air Temp	Black	Left
Return Air Temp	Red	Left

Economizer Graph:

The table below describes the data in the graph:

Data Point	Line Color	Axis
Outdoor Air Temp	Purple	Left
Mixed Air Temp	Grey	Left
Active Min OA Damper Position Target	Pink	Right
Outdoor Air Damper %	Yellow	Right

Outside Air Ventilation:

The table below describes the data in the graph:

Data Point	Line Color	Axis
Min Outdoor Air Flow Target	Black	Left
Outdoor Air Flow	Pink	Left
Outdoor Air Damper %	Yellow	Right
Outdoor Air Temp	Purple	Right

CO_2 Graph:

The table below describes the data in the graph:

Data Point	Line Color	Axis
Active Upper CO_2 Limit Setpoint	Red	Left
Active Lower CO_2 Limit Setpoint	Black	Left
Space CO_2	Green	Left
Outdoor Air Damper %	Yellow	Right

Humidity Graph:

The table below describes the data in the graph:

Data Point	Line Color	Axis
Space Dehumidification Setpoint	Yellow	Left
Outdoor Air Humidity	Red	Left
Return Air Humidity	Black	Left
Space Humidity	Green	Left

Heat Pump Graph:

The table below describes the data in the graph:

Data Point	Line Color	Axis
Outdoor Coil Temp Ckt 1	Green	Left
Outdoor Coil Temp Ckt 2	Blue	Left
Outdoor Air Temp	Purple	Left
Discharge Air Temperature	Grey	Left

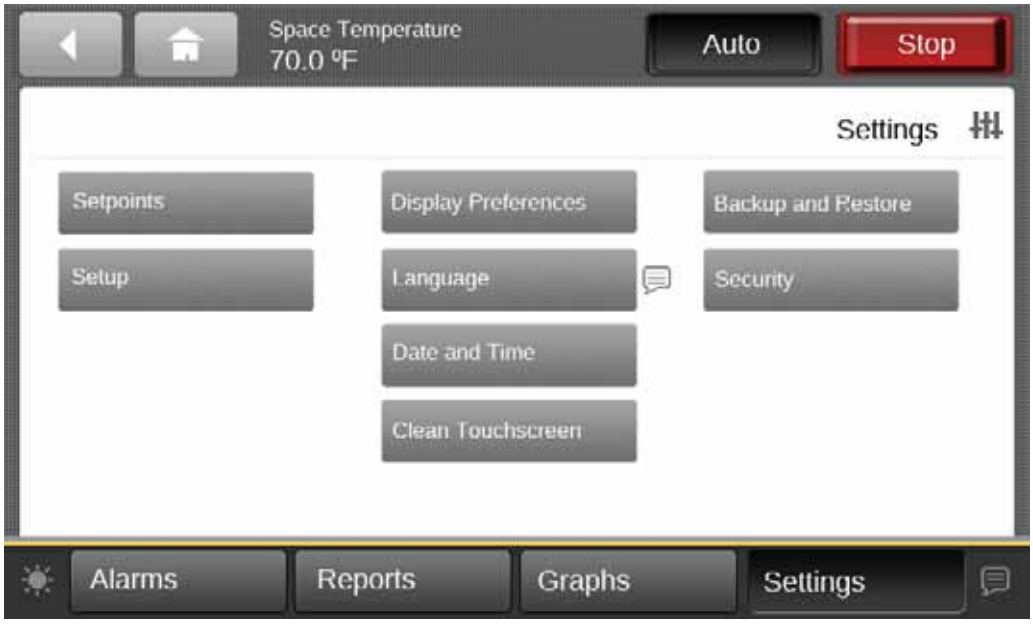
Settings

The Settings screen provides options for display settings, language, overrides and security.Touch the **Settings** button in the bottom display area to view the Settings screen.

Three categories for settings appear on the screen:

- Control Settings
- Display Settings
- Security Settings

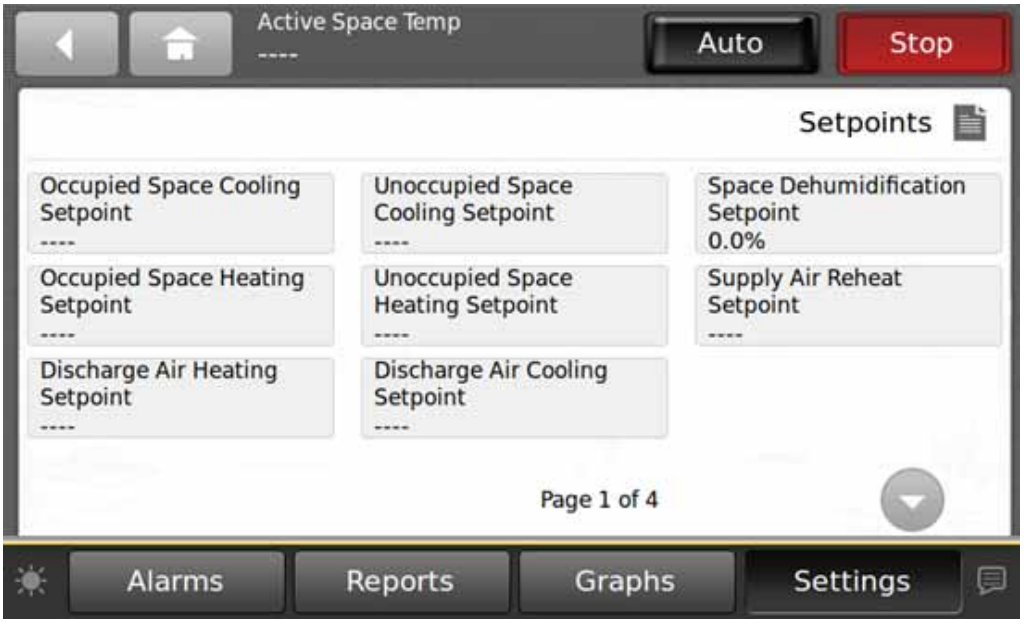
Figure 20. Settings screen



Setpoints

Touch the **Setpoints** button to view the Setpoints screen. Touch the arrow buttons to move between screens.

Figure 21. Setpoints screen



Data Area

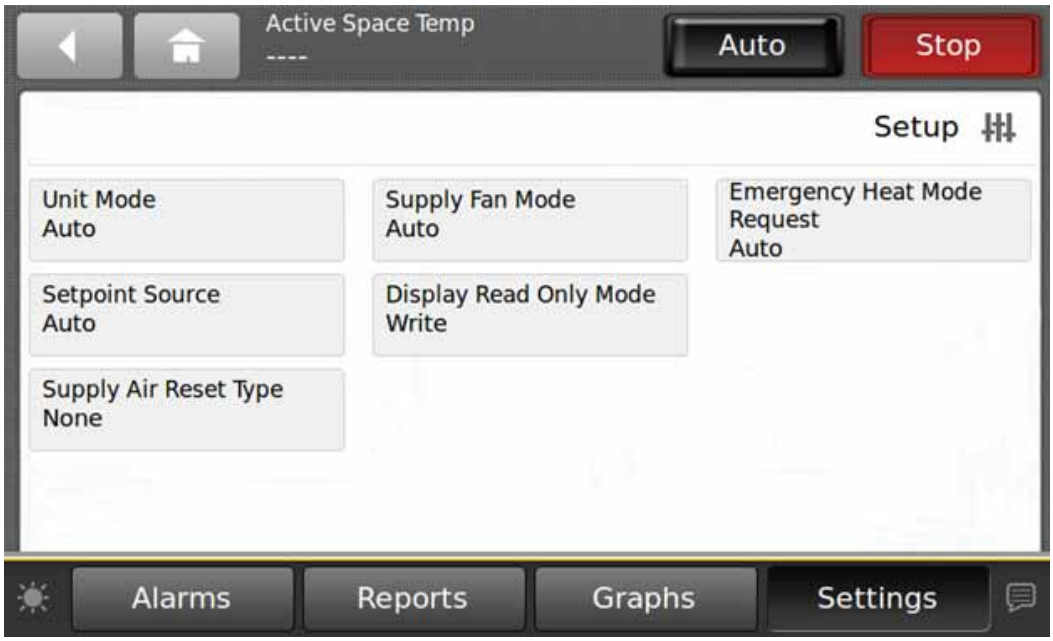
The following data can be configured to appear on the Setpoints screen. Only configured items will appear.

Occupied Space Cooling Setpoint	Unoccupied Space Cooling Setpoint	Space Dehumidification Setpoint
Occupied Space Heating Setpoint	Unoccupied Space Heating Setpoint	Supply Air Reheat Setpoint
Discharge Air Heating Setpoint	Discharge Air Cooling Setpoint	Duct Static Pressure Setpoint
Duct Static Pressure Deadband	Morning Warm-up Setpoint	Supply Air Cooling Setpoint
Supply Air Heating Setpoint	Daytime Warm-up Initiate Setpoint	Space Pressure Setpoint
Space Pressure Deadband	Daytime Warm-up Terminate Setpoint	CO_2 Upper Limit Setpoint
CO_2 Lower Limit Setpoint	Enthalpy Setpoint	Supply Air Reset Setpoint
Exhaust Fan Enable Setpoint	Supply Fan Adjustment Setpoint	Outdoor Air Flow Adjustment Setpoint
Design Min OA flow Setpoint	DCV Min OA Flow Setpoint	Min OA Flow Deadband
Design Min OA Damper Pos Setpoint 100% Fan	Design Min OA Damper Pos Setpoint Mid Fan	Design Min OA Damper Pos Setpoint Min Fan
DCV Min OA Damper Pos Setpoint 100% Fan	DCV Min OA Damper Pos Setpoint Min Fan	Outdoor Air Flow Adjustment Setpoint

Setup

Touch the **Setup** button to view the Setpoints screen. Touch the arrow buttons to move between screens.

Figure 22. Setup screen



This Setup screen shows a list of the setup items in button format. The available setup items are listed below:

Unit Mode Heat, Cool, Auto	Supply Fan Mode On, Auto	Emergency Heat Mode Request Auto, Emergency Heat
System Control Mode Local, Remote	Display Read Only Mode Read, Write	
Supply Air Reset Type Heat, Cool, Auto	Service Test Disable, IGV Close, IGV Open, Fan Only/Min Vent, Economizer Open, Cool 1, Cool 2, Cool 3, Dehumid/Reheat, Heat 1, Heat 2, Heat 3, Defrost, Emergency Heat	

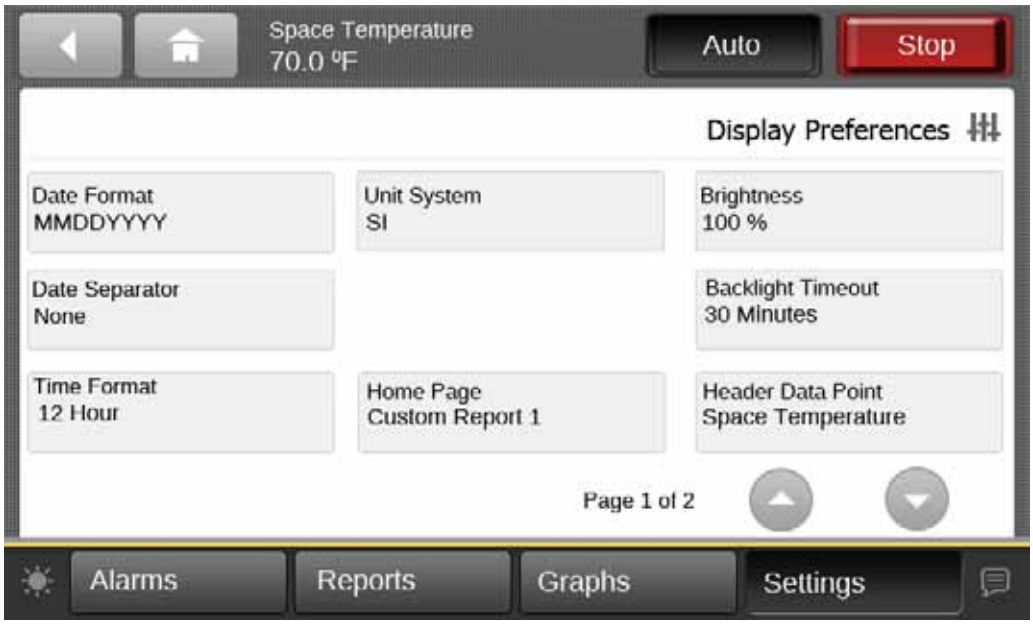
Display Settings Screen

The selections in this category contain settings that affect the way in which information is displayed on all of the TD-5 display screens. From each screen, the current settings can be viewed. To change a setting, touch the preferred value.

Display Preferences

Touch the **Display Preferences** button to open the associated screen (Figure 23, p. 29). On this screen, all available options to display information on the TD-5 screens are available. There are two pages on this screen, accessed by using the arrow button at the bottom of the screen.

Figure 23. Display preferences screen



Date Format

Touch the **Date Format** button to open the associated screen. Three options are available to display the current date: MMDDYYYY, DDMMYYYY, and YYYYMMDD.

Date Separator

Touch the **Date Separator** button to open the associated screen. Three options are available to display separators in the date format: None, Hyphen (-), or Slash (/).

Time Format

Touch the **Time Format** button to open the associated screen. Two options are available: 12-Hour format and 24-Hour format (also referred to as "military time").

Unit System

Touch the **Unit System** button to open the associated screen. Two options are available: SI (system international) or IP (Inch-Pound).

Brightness

Touch the **Brightness** button, or the brightness icon ( )located at the bottom left of each screen, to open the associated screen. Screen brightness is measured in percentage. Use the keypad to enter a new brightness number.

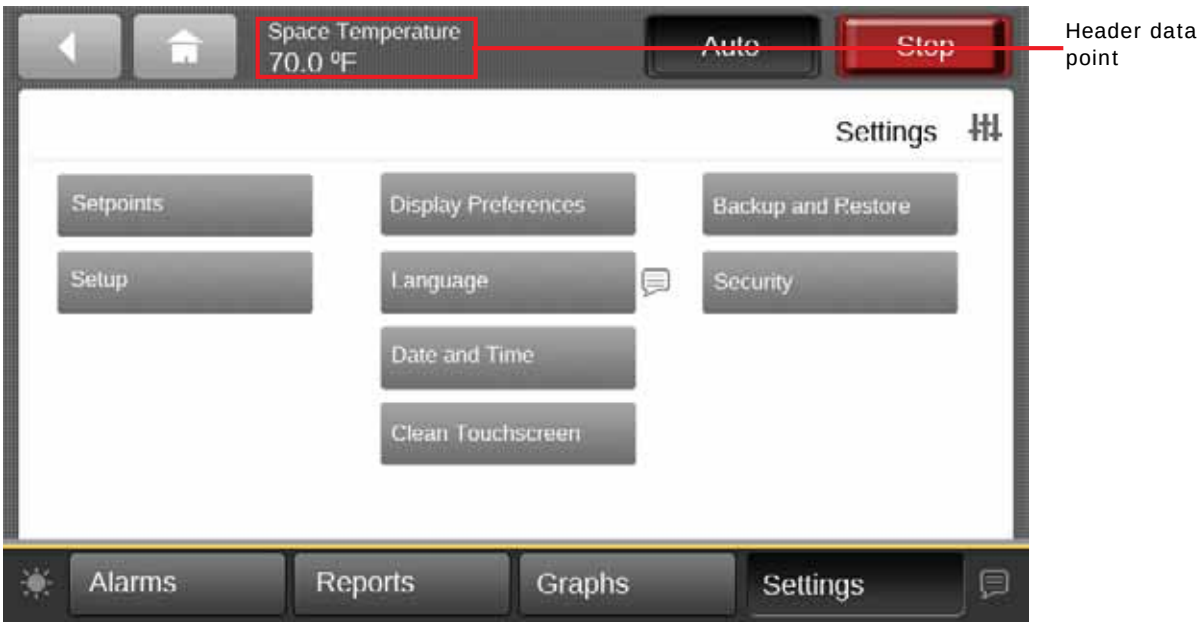
Backlight Time-out

Touch the **Backlight Time-out** button to open the associated screen. This value is measured in minutes, with 30 being the maximum limit. Use the keypad to enter a backlight time-out value. This value is the amount of time that the display will remain lit without activity. When the backlight times out, users will be automatically logged off due to inactivity.

Header Data Point

Use the arrow button on the Display Preferences screen to advance to page 2. Touch the **Header Data Point** button to open the associated screen. The Header Data Point appears in the top right display area on all screens. Use the arrow buttons to scroll through the points. Click **Add** to move the highlighted point to the right side of the screen(Figure 24, p. 30). Click **Save**.

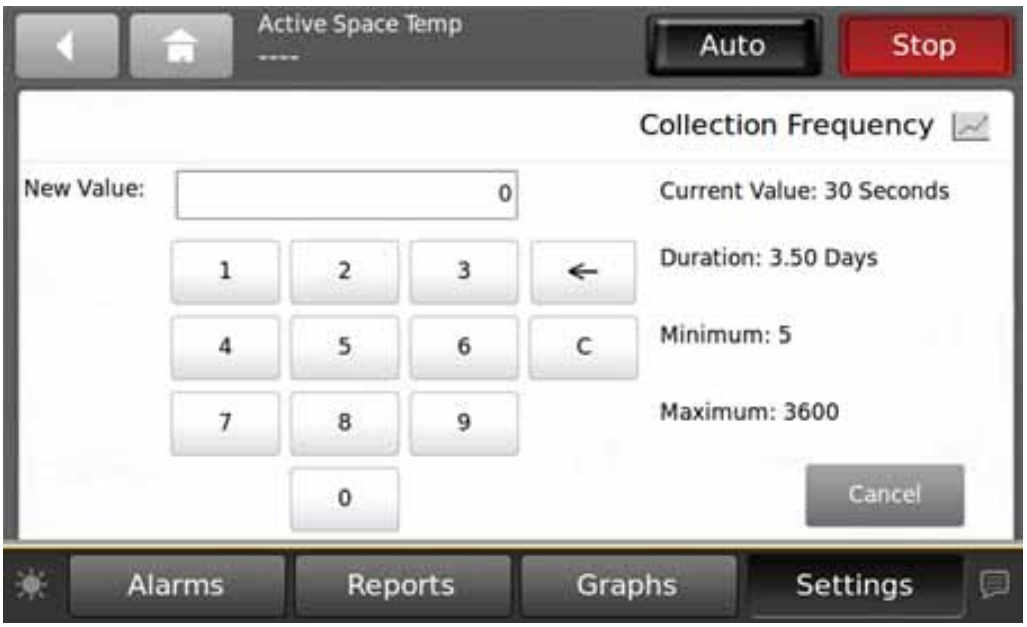
Figure 24. Setting the header data point



Collection Frequency

Collection frequency sets the time interval that the Graph Data is saved, and displayed on the graph. The faster the sample rate, the lower the duration. The default of 30 seconds shall provide 3.5 days of data collection.

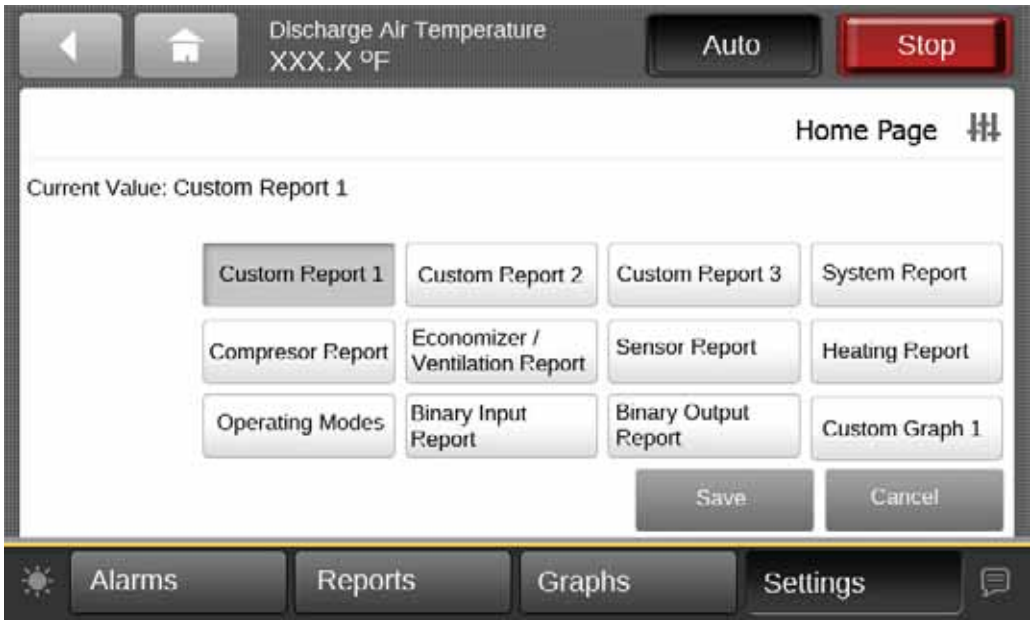
Figure 25. Collection frequency



Home Page

Use the arrow button on the Display Preferences screen to advance to page 2. Touch the **Home Page** button to open the associated screen. This function allows you to choose what will display when the home button is touched.

Figure 26. Home page screen



Language

Touch the **Language button**, or the language icon ( ) located at the bottom right of each screen, to open the Language screen. Twenty-six languages are available and represented on the selection buttons. Select a language that you want displayed on each TD-5 screen and then touch **Save**. See "Language," p. 31.

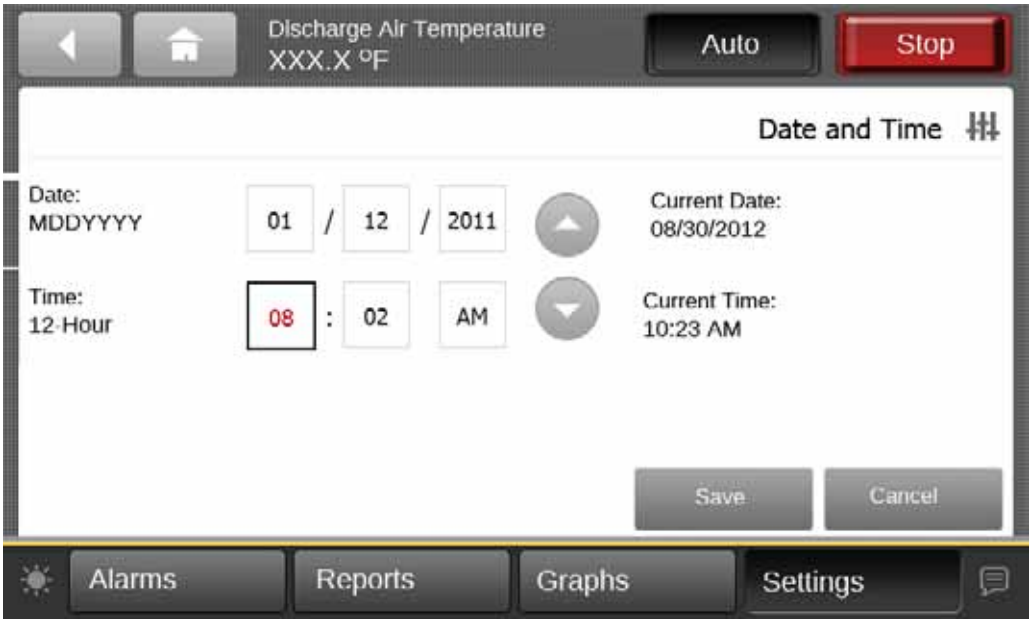
Figure 27. Language screen

Date and Time

Touch the **Date and Time** button to open the associated screen. To enter a new date or time, touch the digit you want to change. When enabled for editing, the digit will appeared with a black border. when finished, touch **Apply** or **Save**. Or,

tap the digit twice which opens the keypad screen where you can make date and time entries. When finished, touch **Enter**; you will be returned to the Date and Time screen. Touch **Apply** or **Save**.

Figure 28. Date and time screen



Clean Touchscreen

Touch the **Clean Touchscreen** button to safely clean the TD-5 touchscreen using any brand of common household glass cleaner. When this button is touched, the screen background color becomes black, allowing dirt and fingerprints to become more visible. It also displays a countdown timer (five to zero seconds). Touch the screen anytime within the 5-second countdown to begin cleaning the screen (each touch resets the 5-second countdown).

Troubleshooting

This section describes the possible error messages and other issues that you may encounter while using the Tracer™ TD-5 display.

Important: *There are no serviceable parts within the TD-5 display enclosure. Opening the enclosure will void the product warranty.*

Identifying and Diagnosing Issues

Problem	Possible Cause	Possible Solution
Blank display (TD-5 does not respond to touch).	No power.	Verify that the TD-5 is connected to a power source, and that the power source is in working condition.
After powering up, the TD-5 displays a message that it is not communicating.	Controller not powered up.	Replace cable if necessary. Power up the controller if necessary.
No data available in custom report.	Data has not yet been defined for the report.	Add data to report. See "Creating a custom report," p. 14.

The manufacturer optimizes the performance of homes and buildings around the world. A business of Ingersoll Rand, the leader in creating and sustaining safe, comfortable and energy efficient environments,the manufacturer offers a broad portfolio of advanced controls and HVAC systems, comprehensive building services, and parts. For more information, visit www.IRCO.com.

RT-SVX49A-EN 04 Nov 2013
(NEW)